

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a computer system that accesses a database having one or more data tables, the computer system configured to provide content from the database to a Web server for inclusion in Web based responses to requests for Web based content, the computer system including a cache configured to cache database content included in Web based responses so as to provide more efficient access to the cached database content when formulating subsequent Web based responses, a method for formulating a Web based response in response to receiving a Web based request for database content ~~configuring the database to provide a change notification to the Web server when content in one of the data tables relevant to the Web server is altered,~~ the method comprising the following:

an act of selecting a data table that is to be monitored for content changes, the selected data table selected from among the one or more data tables of the database, ~~the selected data table providing cacheable content to the Web server to efficiently generate Web responses responsive to Web based requests for content;~~

an act of inserting a record for the selected data table into a separate change notification table, the record including versioning information identifying and corresponding to the selected data table, the versioning information retrievable by the Web server to determine when a corresponding cache entry containing cacheable content from the selected data table is invalid;

an act of assigning a trigger to the selected data table, the trigger configured to update the versioning information included in the record in the change notification table when content in the selected data table is altered;

an act of caching a cache entry that includes a portion of content from the selected data table in the cache, the cache entry including the versioning information identifying and corresponding to the selected data table;

~~an act of updating the versioning information in the change notification table in response to a portion of content in the selected data table being altered; and~~

an act receiving a Web based request for the portion of content subsequent to caching the cache entry;

an act of querying the change notification table for versioning information identifying and corresponding to the selected data table;

an act of ~~sending-receiving the updated-current~~ versioning information identifying and corresponding to the selected data table to the Web server such that the updated versioning information can be compared to the versioning information at the Web server to determine the validity of the corresponding cache entry;

an act of comparing the cached versioning information to the current versioning information;

an act of determining the location to retrieve the portion of content from for inclusion in a Web based response based on the results of comparing the versioning information in response to receiving the Web based request for the portion of content;

an act of retrieving the portion of content from the determined location; and

an act of including the retrieved portion of content in a Web based response responsive to the Web based request.

2. (Currently Amended) The method as recited in claim 1, wherein the act of selecting a data table that is to be monitored for content changes comprises an act of receiving user-input that causes the computer system to select a data table to be monitored for content changes.

3. (Original) The method as recited in claim 1, wherein the act of selecting a data table that is to be monitored for content changes comprises an act of the computer system automatically selecting a data table in response to a received Web request.

4. (Previously Presented) The method as recited in claim 1, wherein the act of inserting a record for the selected data table into a change notification table comprises an act of inserting the record in response to user-input.

5. (Previously Presented) The method as recited in claim 1, wherein the act of inserting a record for the selected data table into a change notification table comprises an act of the computer system automatically inserting the record in response to a Web request.

6. (Previously Presented) The method as recited in claim 1, wherein the act of inserting a record for the selected data table into a change notification table comprises an act of inserting the record into a SQL table.

7. (Original) The method as recited in claim 1, wherein the act of assigning a trigger to the selected data table comprises an act of receiving user input instructing a trigger to be assigned to the selected data table.

8. (Previously Presented) The method as recited in claim 1, wherein the act of assigning a trigger to the selected data table comprises an act of the computer system automatically assigning a trigger in response to receiving a Web request for content contained in the selected data table.

9. (Previously Presented) The method as recited in claim 1, wherein the act of assigning a trigger to the selected data table comprises an act of the assigning a trigger that, when executed by a processing unit at the computer system in response to content in the selected data table being altered, will update a corresponding change ID in the table change notification table.

Claim 10. (Cancelled).

11. (Currently Amended) The method as recited in claim 1, wherein the act of receiving sending the updated current versioning information identifying and corresponding to the selected data table to the Web server comprises an act of sending-receiving updated versioning information that indicates ~~to the Web server that~~ the cache entry is to be invalidated.

Claims 12-35. (Cancelled).

36. (Currently Amended) A computer program product executed at a computer system that access a database having one or more data tables, the computer system configured to provide content from the database to a Web server for inclusion in Web based responses to requests for Web based content, the computer system including a cache configured to cache database content included in Web based responses so as to provide more efficient access to the cached database content when formulating subsequent Web based responses, the computer program product implementing a method for formulating a Web based response in response to receiving a Web based request for database content ~~configuring the database to provide a table change notification to the Web server when data in one of the data tables relevant to the Web server is altered,~~ the computer program product comprising one or more computer-readable storage media having stored thereon computer executable instructions that, when executed by a processing unit, implement the method including the following:

select a data table that is to be monitored for data changes, the selected data table selected from among the one or more data tables of the database, ~~the select data table providing cacheable content to the Web server to efficiently generate Web responses responsive to Web based requests for content;~~

insert a record for the selected data table into a change notification table, the record including versioning information for identifying and corresponding to the selected data table, the versioning information used retrievable by the Web server to determine when a corresponding cache entry containing cacheable content from the selected data table is invalid;

assign a trigger to the selected data table, the trigger configured to update the versioning information in the record in the change notification table when data in the selected data table is altered;

cache a cache entry that includes a portion of content from the selected data table in the cache, the cache entry including the versioning information identifying and corresponding to the selected data table;

~~update the versioning information in the change notification table in response to a portion of content in the selected data table being altered; and~~

receive a Web based request for the portion of content subsequent to caching the cache entry;

query the change notification table for versioning information identifying and corresponding to the selected data table;

~~send receive the updated current versioning information identifying and corresponding to the selected data table to the Web server such that the updated versioning information can be compared to the versioning information at the Web server to determine the validity of the corresponding cache entry at the Web server.~~

compare the cached versioning information to the current versioning information;

determine the location to retrieve the portion of content from for inclusion in a Web based response based on the results of comparing the versioning information in response to receiving the Web based request for the portion of content;

retrieve the portion of content from the determined location; and

include the retrieved portion of content in a Web based response responsive to the Web based request.

37. (Previously Presented) The computer program product as recited in claim 36, wherein the one or more computer-readable storage media are physical media.

38. (Previously Presented) The computer program product as recited in claim 36, wherein the one or more computer-readable storage media include system memory.

Claims 39-49. (Cancelled).

50. (New) The method as recited in claim 1, wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the data table.

51. (New) The method as recited in claim 50, further comprising:

an act of invalidating the cache entry that includes the portion of content based on the comparison of version information in response to receiving the Web based request for the portion of content.

52. (New) The method as recited in claim 1, wherein the act of determining the location to retrieve the portion of content from for inclusion in a Web based response comprises an act of determining that the portion of content is to be retrieved from the cache entry.

53. (New) The method as recited in claim 1, wherein the act of retrieving the portion of content from the determined location comprises an act of retrieving the portion of content from the database table notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received.

54. (New) The method as recited in claim 53, wherein the act of including the retrieved portion of content in a Web based response responsive to the Web based request comprises including the retrieved portion of content from the database table in the Web based response notwithstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received.

55. (New) The computer program product as recited in claim 36, wherein computer executable instructions that, when executed, cause the computer system to determine the location to retrieve the portion of content from for inclusion in a Web based response comprise computer executable instructions that, when executed, cause the computer system to determine that the portion of content is to be retrieved from the data table.

56. (New) The computer program product as recited in claim 55, further comprising:
computer executable instructions that, when executed, cause the computer system to invalidate the cache entry that includes the portion of content based on the comparison of version information in response to receiving the Web based request for the portion of content.

57. (New) The computer program product as recited in claim 36, wherein computer executable instructions that, when executed, cause the computer system to determine the location

to retrieve the portion of content from for inclusion in a Web based response comprise computer executable instructions that, when executed, cause the computer system to an act of determine that the portion of content is to be retrieved from the cache entry.

58. (New) The computer program product as recited in claim 36, wherein computer executable instructions that, when executed, cause the computer system to retrieve the portion of content from the determined location comprise computer executable instructions that, when executed, cause the computer system to retrieve the portion of content from the database table not withstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received.

59. (New) The computer program product as recited in claim 58, wherein computer executable instructions that, when executed, cause the computer system to include the retrieved portion of content in a Web based response responsive to the Web based request comprise computer executable instructions that, when executed, cause the computer system to include the retrieved portion of content from the database table in the Web based response not withstanding that the portion of content was cached at the computer system when the Web based request for the portion of content was received.